

REMARKS

This amendment is in response to the Official Action mailed on March 21, 2007, the statutory period for responding with a three-month extension of time expired on September 21, 2007. Claims 1-2, 5-8, 12-19 are currently pending in the application. Claim 4 was cancelled previously.

I. 35 U.S.C. § 102 REJECTION

The Examiner has rejected claims 1-2, 4, 8 and 17-18 under 35 U.S.C. § 102(b), in view of U.S. Patent No. 4,599,116 to King ("King"). The Examiner contends that all of the limitations are taught by King. For the following reasons, Applicants respectfully disagree with the Examiner's assertions. Claim 4 has been previously cancelled; therefore, the rejection of claim 4 is moot.

Amended claim 1, in part, recites:

"continuously feeding pure water to the rinse bath so as to rinse off the cleaning chemical liquid from a surface of the object, rinsing of the object being carried out by feeding only the pure water for a predetermined period of time from the start of feeding of the pure water to the rinse bath;

adding a neutralizing chemical liquid. . . to the pure water in the rinse bath after the predetermined period of time has elapsed and during the continuous feeding of the pure water to the rinse bath thereby producing a salt by neutralizing the cleaning chemical liquid with the neutralizing chemical liquid."

Claim 1 requires the adding of a neutralizing chemical liquid to the pure water in the rinse bath after the predetermined period of time has elapsed and during the continuous feeding of the pure water. King does not teach or disclose addition of a neutralizing chemical liquid to neutralize the cleaning chemical liquid after the predetermined period of time has elapsed and during the continuous feeding of the pure water. Therefore, King fails to teach or disclose the timing of addition of neutralizing chemical to the rinse. The timing of addition of neutralizing chemical to the rinse as claimed in claim 1 can effectively reduce the amount of pure water required for rinsing. Since King fails to teach or disclose all elements of claim 1, King does not anticipate claim 1. Claims 2 and 17 depend from claim 1 and are not anticipated at least for same reasons as claim 1.

Amended claim 8, in part, recites:

"continuously feeding pure water to the rinse bath so as to rinse off residual cleaning chemical from a surface of the cleaned object, rinsing of the object being carried out by feeding only the pure water for a predetermined period of time;

adding a neutralizing chemical. . . to the pure water in the rinse bath after the predetermined period of time from the start of the rinsing by feeding of the pure water to the rinse bath has elapsed."

Claim 8 requires adding a neutralizing chemical to the pure water in the rinse bath after the predetermined period of

time from the start of the rinsing by feeding of the pure water to the rinse bath has elapsed. King does not teach or disclose adding a neutralizing chemical to the pure water in the rinse bath after the predetermined period of time from the start of the rinsing by feeding of the pure water to the rinse bath has elapsed. Therefore, King fails to teach or disclose the timing of addition of neutralizing chemical to the rinse. The timing of addition of neutralizing chemical to the rinse as claimed in claim 8 can effectively reduce the amount of pure water required for rinsing. Since King fails to teach or disclose all elements of claim 8, King does not anticipate claim 8. Claim 18 depends from claim 8 and is not anticipated at least for same reasons as claim 8.

For the reasons set forth above, Applicants contend that the Examiner's rejections of claims 1-2, 8 and 17-18 are overcome. Consequently, Applicants contend that for these reasons, and the reasons set forth below, claims 1-2, 8 and 17-18 are in condition for allowance.

II. 35 U.S.C. § 103 REJECTION

The Examiner has rejected claims 1-2, 5-8, 12, and 15-18 under 35 U.S.C. § 103(a), in view of U.S. Patent No. 5,656,097 to Olesen et al. ("Olesen").

As discussed previously, claim 1 requires the adding of a neutralizing chemical liquid to the pure water in the rinse bath after the predetermined period of time has elapsed and during the continuous feeding of the pure water. Olesen does not teach, disclose or suggest adding of a neutralizing chemical liquid to the pure water in the rinse bath after the predetermined period of time has elapsed and during the continuous feeding of the pure water. In Olesen, HF or BOE (buffered oxide etchant) is injected into the cold DI water in the Vc2 cycle so as not

to neutralize the chemicals used in the preceding step Vc1, but instead to remove native oxides from a wafer by etching. After this treatment with HF or BOE, rinsing with DI water is further required to be carried out as stated in col. 4, ll. 51-53 or col. 11, ll. 53-56. That is, the object and function of adding of the HF solution to the DI water in Olesen's method are different from those of the adding of the neutralizing chemical liquid to the pure water in the present invention. Therefore, Olesen fails to teach, disclose or suggest the timing of addition of neutralizing chemical to the rinse. The timing of addition of neutralizing chemical to the rinse as claimed in claim 1 can effectively reduce the amount of pure water required for rinsing. Since Olesen fails to teach, disclose or suggest all elements of claim 1, Olesen does not make claim 1 obvious. Claims 2, 5-7 and 17 depend from claim 1 and are not obvious over Olesen at least for same reasons as claim 1.

Claim 8 requires adding a neutralizing chemical to the pure water in the rinse bath after the predetermined period of time from the start of the rinsing by feeding of the pure water to the rinse bath has elapsed. Olesen does not teach, disclose or suggest adding a neutralizing chemical to the pure water in the rinse bath after the predetermined period of time from the start of the rinsing by feeding of the pure water to the rinse bath has elapsed. In Olesen, HF or BOE (buffered oxide etchant) is injected into the cold DI water in the Vc2 cycle so as not to neutralize the chemicals used in the preceding step Vc1, but instead to remove native oxides from a wafer by etching. After this treatment with HF or BOE, rinsing with DI water is further required to be carried out as stated in col. 4, ll. 51-53 or col. 11, ll. 53-56. That is, the

object and function of adding of the HF solution to the DI water in Olesen's method are different from those of the adding of the neutralizing chemical liquid to the pure water in the present invention. Therefore, Olesen fails to teach, disclose or suggest the timing of addition of neutralizing chemical to the rinse. The timing of addition of neutralizing chemical to the rinse as claimed in claim 8 can effectively reduce the amount of pure water required for rinsing. Since Olesen fails to teach, disclose or suggest all elements of claim 8, Olesen does not anticipate claim 8. Claims 12, 15, 16 and 18 depends from claim 8 and are not obvious over Olesen at least for same reasons as claim 8.

The Examiner has rejected claims 13-14 and 19 under 35 U.S.C. § 103, over U.S. Patent No. 5,656,097 to Olesen ("Olesen") and further in view of U.S. Patent No. 3,898,351 to Kennison et al. ("Kennison"). Claims 13, 14 and 19 depend either directly or indirectly from claim 1. Claim 1 is not obvious over Olesen for reasons discussed previously. Kennison does not overcome the deficiency of Olesen. In summary, Olesen and Kennison alone or combined fail to teach, disclose or suggest adding of a neutralizing chemical liquid to the pure water in the rinse bath after the predetermined period of time has elapsed and during the continuous feeding of the pure water. Therefore, Olesen and Kennison alone or combined fail to teach, disclose or suggest all elements of claim 1 and consequently of claims 13-14 and 19. Therefore, claims 13-14 and 19 are not obvious over Olesen further in view of Kennison.

IV. CONCLUSION

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable

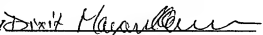
reconsideration and allowance of all pending claims is earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: October 30, 2007

Respectfully submitted,

By 
Mayankkumar Dixit
Registration No.: 44,064
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK, LLP
600 South Avenue West
Westfield, New Jersey 07090
(908) 654-5000
Attorney for Applicants

817144_1.DOC